## ABSTRACT OF THE DISCLOSURE

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An ECC determining unit determines whether an error detected by using an ECC has been corrected. When the detected error has not been corrected, an equalizer output sequence transfer unit transfers an equalizer output sequence  $y_k$  stored in an equalizer output sequence storage unit to a transfer data storage unit in a hard disk controller, so that a high-performance decoding unit (software) performs repetitive decoding, using the transferred equalizer output sequence  $y_k$ .